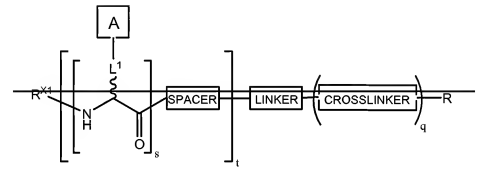
Amendments to the Claims

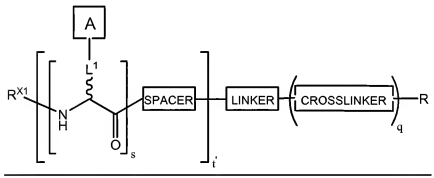
This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

What is claimed is:

1. **(Currently Amended)** A clustered multi-antigenic construct having the structure:





wherein q is 0 or 1;

each occurrence of s is independently an integer from 1-20;

t t' is an integer from ~~1–6~~ 2-6;

R^{X1} is hydrogen, alkyl, acyl, aryl, heteroaryl, -alkyl(aryl), -alkyl(heteroaryl), a nitrogen protecting group, an amino acid or a proctected amino acid;

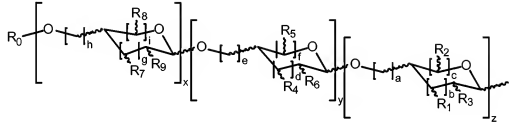
R is hydrogen or an immunogenic carrier;

each occurrence of the spacer is independently a substituted or unsubstituted aliphatic, heteroaliphatic, aryl, heteroaryl or peptidic moiety;

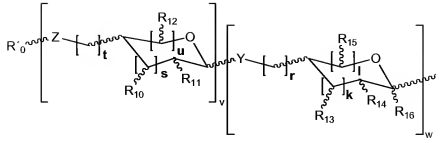
the linker is either a free carboxylic acid, –O-, (carboxamido)alkyl carboxamide, MBS, primary carboxamide, mono- or dialkyl carboxamide, mono- or diarylcarboxamide, linear or branched chain (carboxy)alkyl carboxamide, linear or branched chain (alkoxycarbonyl)alkyl-carboxamide, linear or branched chain (carboxy)arylalkylcarboxamide, linear or branched chain (alkoxycarbonyl)alkylcarboxamide, an oligoester fragment comprising from 2 to about 20 hydroxy acyl residues, a peptidic fragment comprising from 2 to about 20 amino acyl residues, or a linear or branched chain alkyl or aryl carboxylic ester;

each occurrence of L^1 is independently a substituted or unsubstituted aliphatic or heteroaliphatic moiety;

each occurrence of A is independently a carbohydrate determinant having the structure:



wherein a, b, c, d, e, f, g, h, i, x, y and z are independently 0, 1, 2 or 3, with the proviso that the x, y and z bracketed structures represent ~~furanose or~~ pyranose moieties and the sum of b and c is ~~1 or~~ 2, the sum of d and f is ~~1 or~~ 2, and the sum of g and i is ~~1 or~~ 2, and with the proviso that x, y and z are not simultaneously 0; wherein R_0 is hydrogen, a linear or branched chain alkyl, acyl, arylalkyl or aryl group; wherein each occurrence of R_1, R_2, R_3, R_4 , R_5, R_6 , R_7, R_8 and R_9 is independently hydrogen, OH, OR^i, NHR^i, $NHCOR^i$, F, CH_2OH, CH_2OR^i, a substituted or unsubstituted linear or branched chain alkyl, (mono-, di- or tri)hydroxyalkyl, (mono-, di- or tri)acyloxyalkyl, arylalkyl or aryl group; wherein each occurrence of R^i is independently hydrogen, CHO, $COOR^{ii}$, or a substituted or unsubstituted linear or branched chain alkyl, acyl, arylalkyl or aryl group or a saccharide moiety having the structure:



wherein Y and Z are independently NH or O; wherein k, l, r, s, t, u, v and w are each independently 0, 1 or 2; with the proviso that the v and w bracketed structures represent furanose or pyranose moieties and the sum of l and k is ~~1 or~~ 2, and the sum of s and u is ~~1 or~~ 2, and with the proviso that v and w are not simultaneously 0; wherein R'_0 is hydrogen, a linear or branched chain alkyl, acyl, arylalkyl or aryl group; wherein each occurrence of R_{10}, R_{11}, R_{12}, R_{13}, R_{14} and R_{15} is independently hydrogen, OH, OR^{iii}, NHR^{iii}, $NHCOR^{iii}$, F, CH_2OH, CH_2OR^{iii}, or a substituted or unsubstituted linear or branched chain alkyl, (mono-, di- or tri)hydroxyalkyl, (mono-, di- or tri)acyloxyalkyl, arylalkyl or aryl group; wherein each occurrence of R_{16} is hydrogen, COOH, $COOR^{ii}$, $CONHR^{ii}$, a substituted or unsubstituted linear or branched chain alkyl or aryl group; wherein each occurrence of R^{iii} is hydrogen, CHO, $COOR^{iv}$, or a substituted or unsubstituted linear or branched chain alkyl, acyl, arylalkyl or aryl group; and wherein each occurrence of R^{ii} and R^{iv} are each independently H, or a substituted or unsubstituted linear or branched chain alkyl, arylalkyl or aryl group;

with the proviso that all occurrences of A on the multi-antigenic glycopeptide are not the same;

with the limitation that each occurrence of A independently comprises a carbohydrate domain, or truncated or elongated version thereof, that is present on tumor cells.

2. **(Currently Amended)** The construct of claim 1 wherein ~~t~~ t' is ≥ 2 and within each bracketed structure s, independently, each occurrence of A is the same.

3. **(Original)** The construct of claim 1, wherein occurrences of A from one bracketed structure s to the next are different.

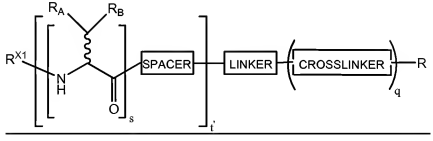
4. **(Original)** The construct of claim 1, wherein A, for each occurrence, is independently selected from the group consisting of Globo-H, fucosyl GM1, KH-1, glycophorin, N3, Tn, TF, STN, (2,3)ST, 2,6-STn, Gb3, Le^y and Le^x.

5. **(Currently Amended)** The construct of claim 1, wherein each occurrence of L^1 is independently a moiety having the structure $-O(CH_2)_n-$ wherein n is an integer from 1-10; or a natural amino acid side chain, wherein a hydrogen radical of the natural amino acid side chain has been removed and replaced with a carbohydrate moiety A as defined in claim 1.

6. **(Original)** The construct of claim 5, wherein each occurrence of L^1 is independently a moiety having the structure $-O(CH_2)_n-$ wherein n is an integer from 1-10.

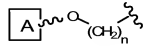
7. **(Original)** The construct of claim 6, wherein n is 3.

8. **(Currently Amended)** The construct of claim 1, ~~wherein each occurrence of L^1 is independently a natural amino acid side chain~~ having the structure:



wherein each occurrence of R_A is independently H or methyl; and

wherein each occurrence of R_B is independently an alkyl glycoside moiety having the structure:



wherein n is an integer from 0-9;

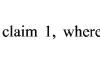
wherein A, for each occurrence, is independently selected from the group consisting of Globo-H, fucosyl GM1, KH-1, glycophorin, N3, Tn, TF, STN, (2,3)ST, 2,6-STn, Gb3, Le^y and Le^x.

9. **(Original)** The construct of claim 1, wherein R^{X1} is an acyl moiety.

10. **(Original)** The construct of claim 9, wherein R^{X1} is an amino acid residue.

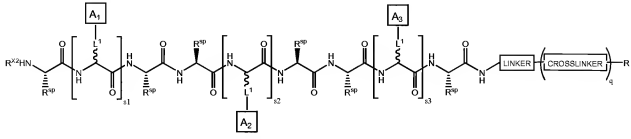
11. **(Original)** The construct of claim 1, wherein the spacer, for each occurrence, is independently a substituted or unsubstituted C_{1-6}alkylidene or C_{2-6}alkenylidene chain wherein up to two non-adjacent methylene units are independently optionally replaced by CO, CO_2, COCO, $CONR^{Z1}$, $OCONR^{Z1}$, $NR^{Z1}NR^{Z2}$, $NR^{Z1}NR^{Z2}CO$, $NR^{Z1}CO$, $NR^{Z1}CO_2$, $NR^{Z1}CONR^{Z2}$, SO, SO_2, $NR^{Z1}SO_2$, SO_2NR^{Z1}, $NR^{Z1}SO_2NR^{Z2}$, O, S, or NR^{Z1}; wherein each occurrence of R^{Z1} and R^{Z2} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl; a peptidyl moiety or a bivalent aryl or heteroaryl moiety.

12. **(Original)** The construct of claim 1, wherein the spacer, for each occurrence, is independently $-(CHR^{sp})_n-$, where n is 1-8 and each occurrence of R^{sp} is independently hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, -alkyl(aryl), -alkyl(heteroaryl), $-OR^{sp1}$, $-SR^{sp}1$ or $-NR^{sp1}R^{sp2}$ where R^{sp1} and R^{sp1} are independently hydrogen or lower alkyl; a peptidyl moiety comprising one or more α-amino acid residues, or a bivalent aryl moiety having the structure:

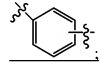


13. **(Original)** The construct of claim 1, wherein each occurrence of the spacer is independently a dipeptidyl moiety.

14. **(Currently Amended)** The construct of claim 1, wherein ~~t~~ t' is 3, each occurrence of the spacer that is not directly attached to the linker is independently a dipeptidyl moiety and the glycopeptide has the structure:

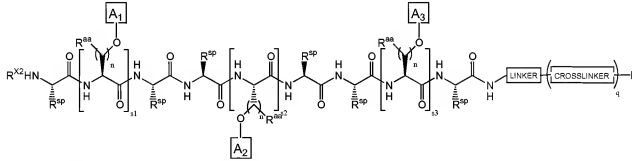


wherein L^1 ~~and R^{sp} are as~~ is as defined in claim 1; wherein R^{sp} is independently hydrogen, alkyl, cycloalkyl, aryl, heteroaryl, -alkyl(aryl), -alkyl(heteroaryl), $-OR^{sp1}$, $-SR^{sp}1$ or $-NR^{sp1}R^{sp2}$ where R^{sp1} and R^{sp1} are independently hydrogen or lower alkyl; a peptidyl moiety comprising one or more α-amino acid residues, or a bivalent aryl moiety having the structure:



s1, s2 and s3 are independently integers from 2-5; A_1-A_3 are carbohydrate domains, as defined for A in claim 1, and are different from each other; and R^{X2} is hydrogen, alkyl, acyl, aryl, heteroaryl, -alkyl(aryl), -alkyl(heteroaryl) or a nitrogen protecting group.

15. **(Original)** The construct of claim 14 having the structure:



wherein R, R^{X2}, R^{sp}, s1, s2 and s3 and A_1-A_3 are as defined in claim 14; each occurrence of n is independently an integer from *1-10*; and each occurrence of R^{aa} is hydrogen, lower alkyl, aryl, heteroaryl, -alkyl(aryl) or –alkyl(heteroaryl).

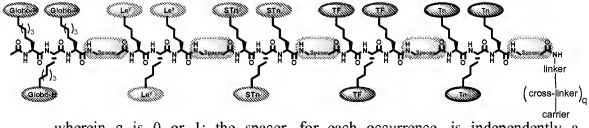
16. **(Original)** The construct of claim 15, wherein each occurrence of n is 1 and each occurrence of R^{aa} is hydrogen or methyl.

17. **(Original)** The construct of claim 15, wherein each occurrence of n is independently an integer from *1-10* and each occurrence of R^{aa} is hydrogen.

18. **(Original)** The construct of claim 15, wherein each occurrence of R^{sp} is independently a natural amino acid side chain.

19. **(Original)** The construct of claim 18, wherein each occurrence of R^{sp} is hydrogen.

20. **(Original)** The construct of claim 1 having the structure:



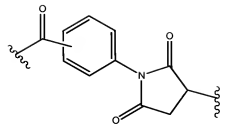
wherein q is 0 or 1; the spacer, for each occurrence, is independently a substituted or unsubstituted $C_{1\text{-}6}$alkylidene or $C_{2\text{-}6}$alkenylidene chain wherein up to two non-adjacent methylene units are independently optionally replaced by CO, CO_2, COCO, $CONR^{Z1}$, $OCONR^{Z1}$, $NR^{Z1}NR^{Z2}$, $NR^{Z1}NR^{Z2}CO$, $NR^{Z1}CO$, $NR^{Z1}CO_2$, $NR^{Z1}CONR^{Z2}$, SO, SO_2, $NR^{Z1}SO_2$, SO_2NR^{Z1}, $NR^{Z1}SO_2NR^{Z2}$, O, S, or NR^{Z1}; wherein each occurrence of R^{Z1} and R^{Z2} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl; a peptidyl moiety or a bivalent aryl or heteroaryl moiety; the linker is either a free carboxylic acid, –O-, (carboxamido)alkyl carboxamide, MBS, primary carboxamide, mono- or dialkyl carboxamide, mono- or diarylcarboxamide, linear or branched chain (carboxy)alkyl carboxamide, linear or branched chain (alkoxycarbonyl)alkyl-carboxamide, linear or branched chain (carboxy)arylalkylcarboxamide, linear or branched chain (alkoxycarbonyl)alkylcarboxamide, an oligoester fragment comprising from 2 to about 20 hydroxy acyl residues, a peptidic fragment comprising from 2 to about 20 amino acyl

residues, or a linear or branched chain alkyl or aryl carboxylic ester; and the carrier is an immunogenic carrier.

21. **(Original)** The construct of claim 1, 14, 15 or 20, wherein the linker is -O-, -NR_G-, -NR_G(aliphatic)NR_J-, -NR_G(heteroaliphatic)NR_J-, -(aliphatic)NR_J-, -(heteroaliphatic)NR_J-, -O(aliphatic)NR_J-, -O(heteroaliphatic)NR_J-, -NR_G(aliphatic)NR_J(C=O)$(CR_HR_I)_k$S-, -NR_G(heteroaliphatic)NR_J(C=O)$(CR_HR_I)_k$S-, -(aliphatic)NR_J(C=O)$(CR_HR_I)_k$S-, -(heteroaliphatic)NR_J(C=O)$(CR_HR_I)_k$S-, -O(aliphatic)NR_J(C=O)$(CR_HR_I)_k$S-, -O(heteroaliphatic)NR_J(C=O)$(CR_HR_I)_k$S-, an oligoester fragment comprising from 2 to about 20 hydroxy acyl residues, a peptidic fragment comprising from 2 to about 20 amino acyl residues, or a linear or branched chain alkyl or aryl carboxylic ester, wherein each occurrence of k is independently 1-5; wherein each occurrence of R_G, R_H, R_I or R_J is independently hydrogen, a linear or branched, substituted or unsubstituted, cyclic or acyclic moiety, or a substituted or unsubstituted aryl moiety, and wherein each aliphatic or heteroaliphatic moiety is independently substituted or unsubstituted, linear or branched, cyclic or acyclic.

22. **(Original)** The construct of claim 21, wherein the linker is -O-, -$NR_G(CR_HR_I)_kNR_J$-, -$NR_G(CR_HR_I)_kNR_J(C=O)(CR_HR_I)_k$S-, -$NR_G$-, -$(CR_HR_J)_kNR_I$-, -$O(CR_HR_I)_kNR_J$, an oligoester fragment comprising from 2 to about 20 hydroxy acyl residues, a peptidic fragment comprising from 2 to about 20 amino acyl residues, or a linear or branched chain alkyl or aryl carboxylic ester, wherein each occurrence of k is independently 1-5, wherein each occurrence of R_G, R_H, R_I or R_J is independently hydrogen, a linear or branched, substituted or unsubstituted, cyclic or acyclic moiety, or a substituted or unsubstituted aryl moiety.

23. **(Original)** The construct of claim 1, 14, 15 or 20, wherein q is 1 and the crosslinker is a fragment having the structure:



whereby said structure is generated upon conjugation of maleimidobenzoic acid N-hydroxy succinimide ester with a linker.

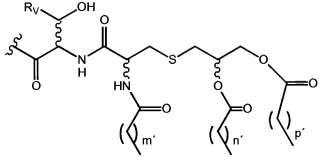
24. **(Original)** The construct of claim 1, 14 or 15, wherein R is hydrogen and q is 0.

25. **(Original)** The construct of claim 1, 14 or 15, wherein R is an immunogenic carrier.

26. **(Original)** The construct of claim 25 wherein the immunogenic carrier is a protein, peptide or lipid.

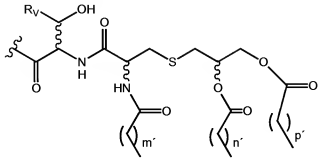
27. **(Original)** The construct of claim 26 wherein the carrier is KLH, polylysine, HSA or BSA.

28. **(Original)** The construct of claim 1, 14 or 15, wherein q is 0 and R is a lipid immunogenic carrier having the structure:



wherein m′, n′ and p′ are each independently integers between about 8 and 20; and R_V is hydrogen, substituted or unsubstituted linear or branched chain lower alkyl or substituted or unsubstituted phenyl.

29. **(Original)** The construct of claim 20, wherein q is 0 and the carrier is a lipid immunogenic carrier having the structure:



wherein m′, n′ and p′ are each independently integers between about 8 and 20; and R_V is hydrogen, substituted or unsubstituted linear or branched chain lower alkyl or substituted or unsubstituted phenyl.

30. **(Original)** The construct of claim 28 wherein m′, n′ and p′ are each 14 and the lipid is tripalmitoyl-S-glycerylcysteinylserine.

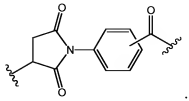
31. **(Original)** The construct of claim 1, 14 or 15, wherein each occurrence of A is independently Globo-H, fucosyl GM1, KH-1, glycophorin, Le^y, Le^x, N3, Tn, STN, 2,6-STn, (2,3)ST, Gb3 or TF.

32. **(Currently Amended)** The construct of claim 1, 14, 15 or 20, wherein the linker is a moiety having the structure ~~$-NH(CH_2)_t NHC(=O)(CH_2)_v S-$~~ $-NH(CH_2)_{t''}NHC(=O)(CH_2)_v S-$; wherein ~~t~~ t'' and v are each independently integers from 1-6.

33. **(Currently Amended)** The construct of claim 1, 14 or 15, wherein n and q are each 0, R is hydrogen and the linker is a moiety having the structure ~~$NH(CH_2)_t NHC(=O)(CH_2)_v S-$~~ $-NH(CH_2)_{t''}NHC(=O)(CH_2)_v S-$ wherein ~~t~~ t'' and v are each independently integers from 1-6.

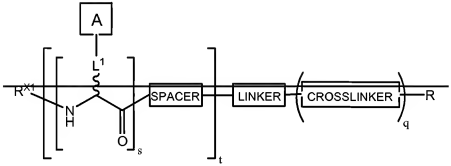
34. **(Currently Amended)** The construct of claim 1, 14 or 15, wherein n is 0, q is 1, R is KLH, the linker is a moiety having the structure ~~$-NH(CH_2)_t NHC(=O)(CH_2)_v S-$~~

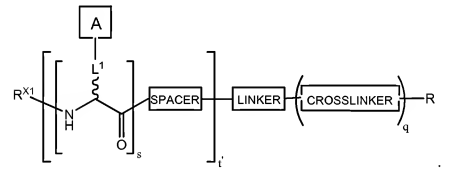
-NH(CH$_2$)$_{t''}$NHC(=O)(CH$_2$)$_v$S- wherein t t'' and v are each independently integers from 1-6, and the crosslinker is a moiety having the structure:



35. **(Currently Amended)** The construct of claim 32 wherein t t'' is 3 and v is 1.

36. **(Currently Amended)** A method for the synthesis of clustered multi-antigenic constructs having the structure:





;

wherein q is 0 or 1;

each occurrence of s is independently an integer from 2-20;

t t' is an integer from ~~1-6~~ 2-6;

R^{X1} is hydrogen, alkyl, acyl, aryl, heteroaryl, -alkyl(aryl), -alkyl(heteroaryl), a nitrogen protecting group, an amino acid or a proctected amino acid;

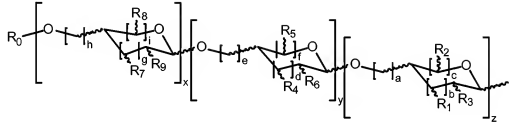
R is hydrogen or an immunogenic carrier;

each occurrence of the spacer is independently a substituted or unsubstituted aliphatic, heteroaliphatic, aryl, heteroaryl or peptidic moiety;

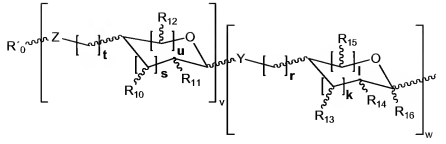
the linker is either a free carboxylic acid, –O-, (carboxamido)alkyl carboxamide, MBS, primary carboxamide, mono- or dialkyl carboxamide, mono- or diarylcarboxamide, linear or branched chain (carboxy)alkyl carboxamide, linear or branched chain (alkoxycarbonyl)alkyl-carboxamide, linear or branched chain (carboxy)arylalkylcarboxamide, linear or branched chain (alkoxycarbonyl)alkylcarboxamide, an oligoester fragment comprising from 2 to about 20 hydroxy acyl residues, a peptidic fragment comprising from 2 to about 20 amino acyl residues, or a linear or branched chain alkyl or aryl carboxylic ester;

each occurrence of L^1 is independently a substituted or unsubstituted aliphatic or heteroaliphatic moiety;

each occurrence of A is independently a carbohydrate domain having the structure:



wherein a, b, c, d, e, f, g, h, i, x, y and z are independently 0, 1, 2 or 3, with the proviso that the x, y and z bracketed structures represent ~~furanose or~~ pyranose moieties and the sum of b and c is ~~1 or~~ 2, the sum of d and f is ~~1 or~~ 2, and the sum of g and i is ~~1 or~~ 2, and with the proviso that x, y and z are not simultaneously 0; wherein R_0 is hydrogen, a linear or branched chain alkyl, acyl, arylalkyl or aryl group; wherein each occurrence of R_1, R_2, R_3, R_4 , R_5, R_6 , R_7, R_8 and R_9 is independently hydrogen, OH, OR^i, NHR^i, $NHCOR^i$, F, CH_2OH, CH_2OR^i, a substituted or unsubstituted linear or branched chain alkyl, (mono-, di- or tri)hydroxyalkyl, (mono-, di- or tri)acyloxyalkyl, arylalkyl or aryl group; wherein each occurrence of R^i is independently hydrogen, CHO, $COOR^{ii}$, or a substituted or unsubstituted linear or branched chain alkyl, acyl, arylalkyl or aryl group or a saccharide moiety having the structure:



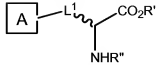
wherein Y and Z are independently NH or O; wherein k, l, r, s, t, u, v and w are each independently 0, 1 or 2; with the proviso that the v and w bracketed structures represent ~~furanose or~~ pyranose moieties and the sum of l and k is 1 or 2, and the sum of s and u is 1 ~~or~~ 2, and with the proviso that v and w are not simultaneously 0; wherein R'_0 is hydrogen, a linear or branched chain alkyl, acyl, arylalkyl or aryl group; wherein each occurrence of R_{10}, R_{11}, R_{12}, R_{13}, R_{14} and R_{15} is independently hydrogen, OH, OR^{iii}, NHR^{iii}, $NHCOR^{iii}$, F, CH_2OH, CH_2OR^{iii}, or a substituted or unsubstituted linear or branched chain alkyl, (mono-, di- or tri)hydroxyalkyl, (mono-, di- or tri)acyloxyalkyl, arylalkyl or aryl group; wherein each occurrence of R_{16} is hydrogen, COOH, $COOR^{ii}$, $CONHR^{ii}$, a substituted or unsubstituted linear or branched chain alkyl or aryl group; wherein each occurrence of R^{iii} is hydrogen, CHO, $COOR^{iv}$, or a substituted or unsubstituted linear or branched chain alkyl, acyl, arylalkyl or aryl group; and wherein each occurrence of R^{ii} and R^{iv} are each independently H, or a substituted or unsubstituted linear or branched chain alkyl, arylalkyl or aryl group; and wherein each glycosidic moiety is either α- or β-linked to an amino acid;

with the limitation that each occurrence of A independently comprises a carbohydrate domain, or truncated or elongated version thereof, that is present on tumor cells;

wherein within each bracketed structure s, independently, each occurrence of A is the same

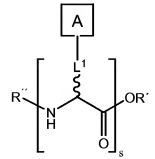
wherein said method comprises steps of:

(a) providing a glycoamino acid having the structure:



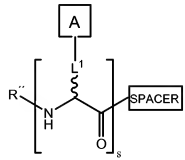
wherein A is a carbohydrate domain as described above;

(b) reacting s occurrences of said glycoamino acid under suitable conditions to generate a glycopeptide having the structure:

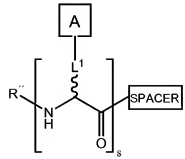


wherein s is an integer from 2-20; each occurrence of A is the same within the bracketed glycopeptide s; R′ is hydrogen or a protecting group; and R′′ is hydrogen, a protecting group, an amino acid or a protected amino acid;

(c) reacting said glycopeptide with a spacer under suitable conditions to generate a spacer construct having the structure:

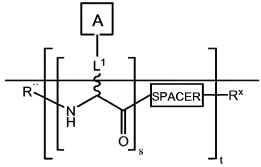


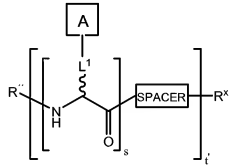
(d) Repeating steps (a) through (c) ~~t-1~~ t'-1 times to generate ~~t-1~~ t'-1 spacer constructs each independently having the structure:



wherein, for each spacer construct, s, L^1, R′′ and the spacer moiety may be the same or different; and each spacer construct comprises a different carbohydrate domain A;

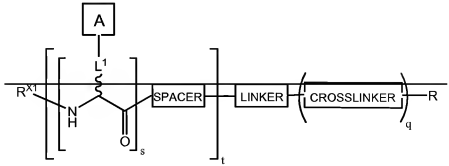
(e) Reacting the spacer construct formed in step (c) with the spacer constructs of step (d) under suitable conditions to generate a construct having the structure:

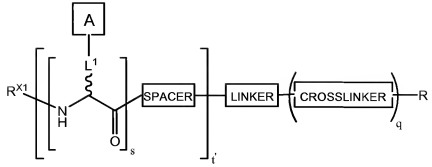




wherein R^x is a protecting group; each occurrence of A is the same within each bracketed structure s; and each bracketed structure s comprises a different carbohydrate domain A; and

(f) Reacting the constructs of step (e) with a linker and optionally a crosslinker and/or an immunogenic carrier under suitable conditions to form the clustered multi-antigenic construct having the structure:





wherein q, linker, crosslinker and R are as defined above.

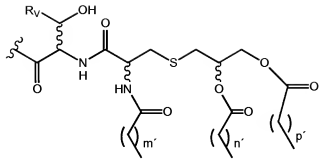
37. **(Original)** A pharmaceutical composition comprising:
a construct of claim 1, and
a pharmaceutically suitable carrier.

38. **(Original)** The pharmaceutical composition of claim 37, wherein the construct is conjugated to an immunogenic carrier.

39. **(Original)** A pharmaceutical composition comprising:
a pharmaceutically acceptable carrier;
an immunogenic carrier; and
a multi-antigenic clustered construct of claim 1;
whereby the construct has not been conjugated to the immunogenic carrier.

40. **(Original)** The pharmaceutical composition of claim 37 or 39, wherein the immunogenic carrier is bovine serum albumin, polylysine or keyhole limpet hemocyanin.

41. **(Original)** The pharmaceutical composition of claim 37 or 39, wherein the construct does not comprise a crosslinker and the immunogenic carrier is a lipid having the structure:



wherein m′, n′ and p′ are each independently integers between about 8 and 20; and R_V is hydrogen, substituted or unsubstituted linear or branched chain lower alkyl or substituted or unsubstituted phenyl.

42. **(Original)** The pharmaceutical composition of claim 41, wherein m′, n′ and p′ are each 14 and the lipid is tripalmitoyl-S-glycerylcysteinylserine.

43. **(Original)** The pharmaceutical composition of claim 37 or 39, further comprising one or more immunological adjuvants.

44. **(Original)** The pharmaceutical composition of claim 43, wherein at least one of said one or more immunological adjuvants is a saponin adjuvant.

45. **(Original)** The pharmaceutical composition of claim 44, wherein the saponin adjuvant is GPI-0100.

46. **(Original)** The pharmaceutical composition of claim 43, wherein at least one of said one or more immunological adjuvants is bacteria or liposomes.

47. **(Original)** The pharmaceutical composition of claim 46, wherein the immunological adjuvant is Salmonella minnesota cells, bacille Calmette-Guerin or QS21.

48. **(Withdrawn)** A method of treating cancer in a subject suffering therefrom comprising:

administering to a subject a therapeutically effective amount of a clustered multi-antigenic construct of claim 1,

and a pharmaceutically suitable carrier.

49. **(Withdrawn)** The method of claim 48, wherein the construct is conjugated to an immunogenic carrier.

50. **(Withdrawn)** The method of claim 48, wherein the construct has not been conjugated to a carrier, and the method further comprises administering an immunogenic carrier.

51. **(Withdrawn)** The method of claim 48, wherein said method comprises preventing the recurrence of cancer in a subject.

52. **(Withdrawn)** The method of claim 48 or 51, wherein the cancer is a solid tumor.

53. **(Withdrawn)** The method of claim 48 or 51, wherein the subject is in clinical remission, or where the subject has been treated by surgery, has limited unresected disease.

54. **(Withdrawn)** A method of inducing antibodies in a subject, wherein the antibodies are capable
of specifically binding with tumor cells, which comprises administering to the subject an amount of a clustered multi-antigenic construct of claim 1 effective to induce the antibodies.

55. **(Withdrawn)** The method of claim 54, wherein the glycopeptide is conjugated to an immunogenic carrier.

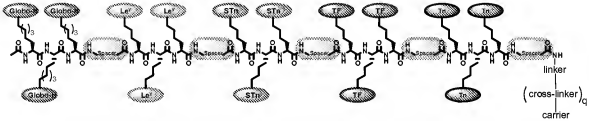
56. **(Withdrawn)** A method of inducing antibodies in a subject, wherein the antibodies are capable

of specifically binding with tumor cells, which comprises administering to the subject:

an amount of a clustered multi-antigenic construct of claim 1; wherein R is hydrogen; and wherein the amount of construct is effective to induce the antibodies.

57. **(Withdrawn)** The method of claim 56, wherein the method further comprises administering an immunogenic carrier.

58. **(Withdrawn)** The method of claim 48, 54 or 56, wherein the clustered multi-antigenic construct has the stucture:



wherein q is 0 or 1; the spacer, for each occurrence, is independently a substituted or unsubstituted $C_{1\text{-}6}$alkylidene or $C_{2\text{-}6}$alkenylidene chain wherein up to two non-adjacent methylene units are independently optionally replaced by CO, CO_2, COCO, $CONR^{Z1}$, $OCONR^{Z1}$, $NR^{Z1}NR^{Z2}$, $NR^{Z1}NR^{Z2}CO$, $NR^{Z1}CO$, $NR^{Z1}CO_2$, $NR^{Z1}CONR^{Z2}$, SO, SO_2, $NR^{Z1}SO_2$, SO_2NR^{Z1}, $NR^{Z1}SO_2NR^{Z2}$, O, S, or NR^{Z1}; wherein each occurrence of R^{Z1} and R^{Z2} is independently hydrogen, alkyl, heteroalkyl, aryl, heteroaryl or acyl; a peptidyl moiety or a bivalent aryl or heteroaryl moiety; the linker is either a free carboxylic acid, –O-, (carboxamido)alkyl carboxamide, MBS, primary carboxamide, mono- or dialkyl carboxamide, mono- or diarylcarboxamide, linear or branched chain (carboxy)alkyl carboxamide, linear or branched chain (alkoxycarbonyl)alkyl-carboxamide, linear or branched chain (carboxy)arylalkylcarboxamide, linear or branched chain (alkoxycarbonyl)alkylcarboxamide, an oligoester fragment comprising from 2 to about 20 hydroxy acyl residues, a peptidic fragment comprising from 2 to about 20 amino acyl residues, or a linear or branched chain alkyl or aryl carboxylic ester; and the carrier is an immunogenic carrier.